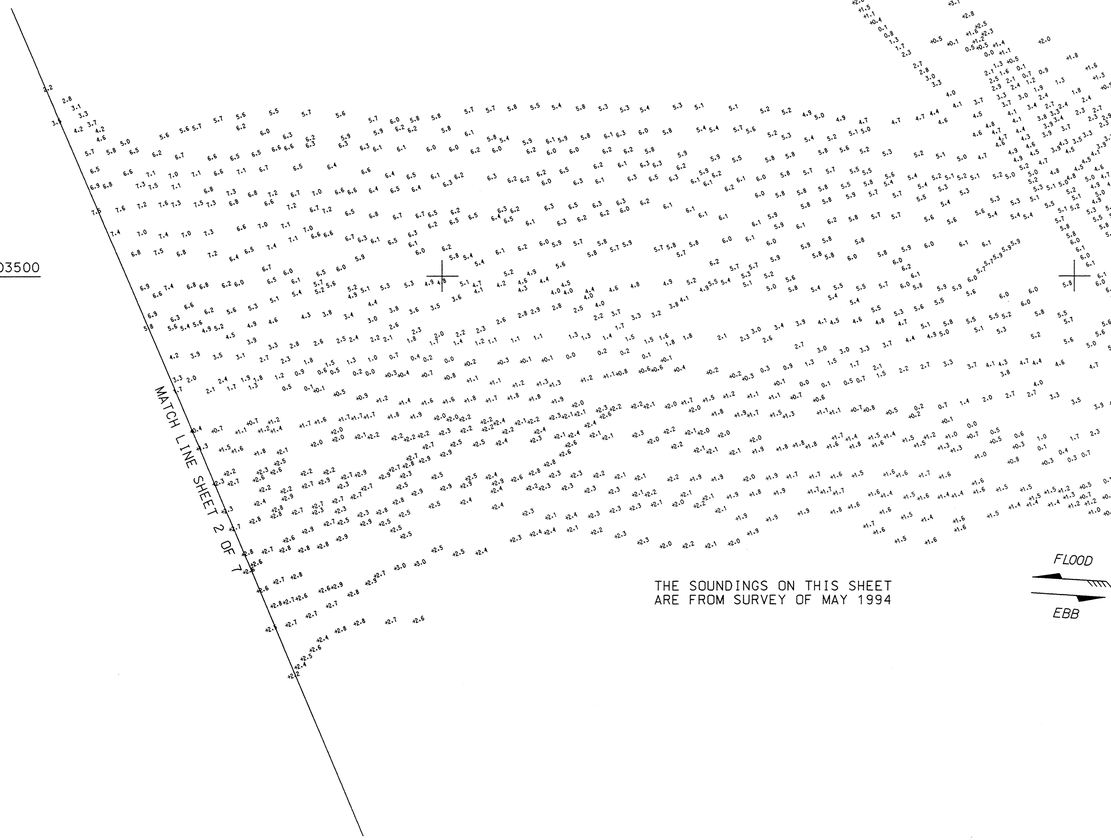
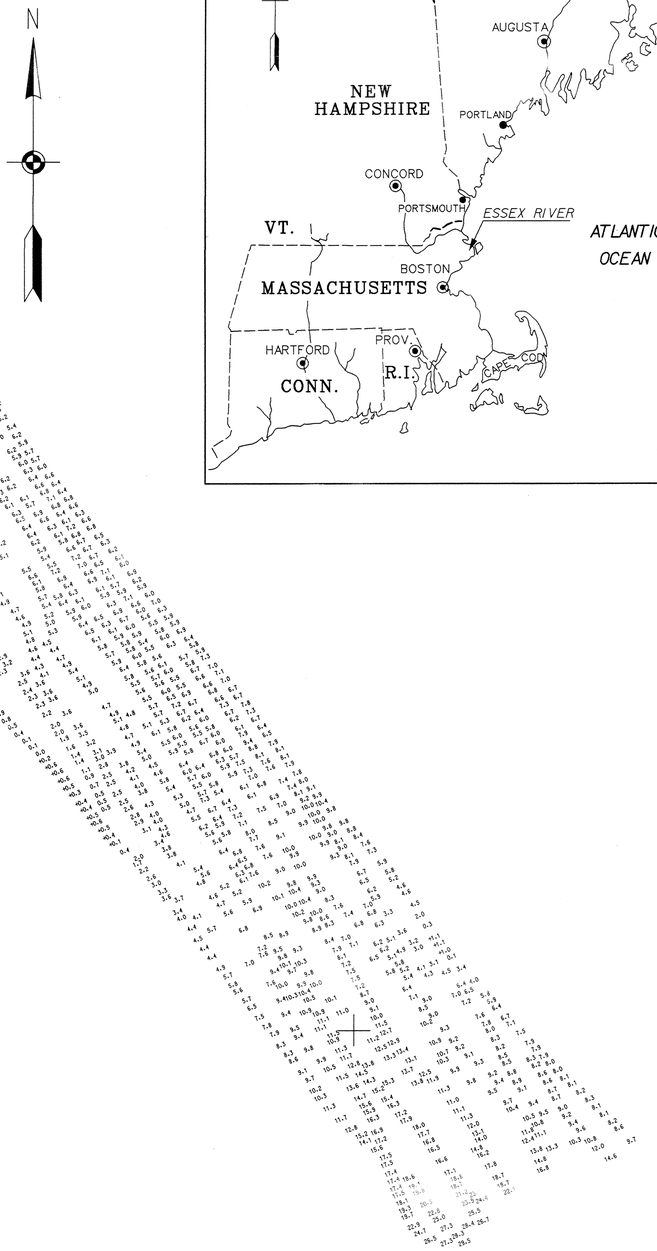
8 7 6 5 4 3 2 1

F E D C B A

E 800500 E 801000 E 801500

N 603500 N 603000

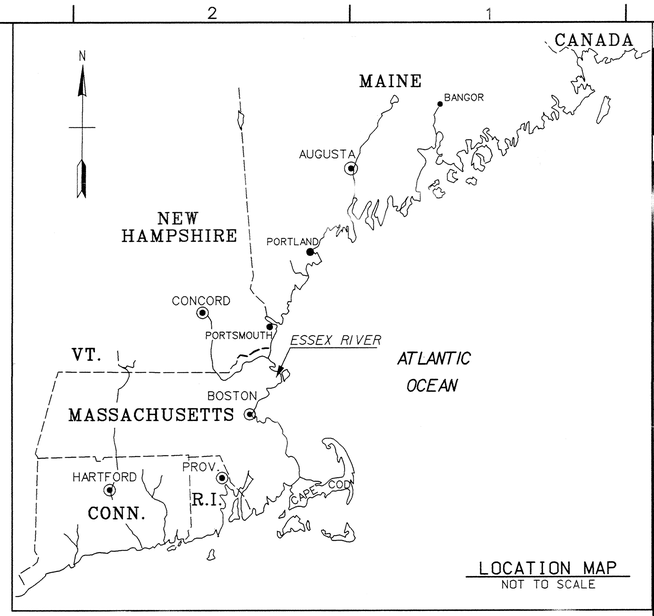




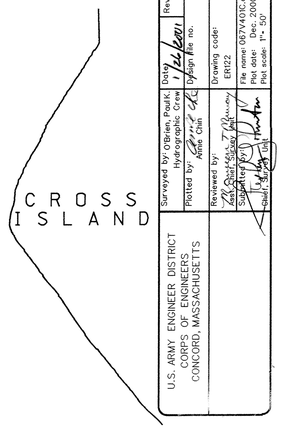
THE SOUNDINGS ON THIS SHEET ARE FROM SURVEY OF MAY 1994

FLOOD

EBB



LOCATION MAP
NOT TO SCALE



GENERAL NOTES:

1. Soundings are in feet and tenths and are referred to the plane of Mean Lower Low Water (MLLW) for sheets 2 thru 7. Sheet 1 is based on a previous survey and referred to MLW.
2. Topography from previous surveys, and NOAA Chart No. 13274. All topography, including shoreline, bridges, piers, etc. is located approximate unless otherwise noted and should be used for general reference only.
3. Bench Mark Data: Bench Mark 1771 B (1994) is a NOS Tidal Station Disk set in the concrete apron fronting the concrete service building on the Essex Marina property, 19.4 meters (63.6 ft) SW of the NE corner of the service building, 1.9 meters (6.2 ft) NE of the SW same building, 0.7 meters (2.3 ft) east of the west edge of the concrete apron, and 0.2 meters (0.7 ft) west of the west face of the building. Elevation is 14.51 feet above MLLW. (14.18 feet above MLW).
4. Coordinates are based on the Lambert Grid System For the Commonwealth of Massachusetts (Mainland Zone) & NAD 1927.
5. The sounding information depicted on these maps represents the SHOALEST soundings of those obtained from hydrographic surveys conducted during April & May 2000 & May 1994.
6. The sounding information depicted on these maps should NOT be used to determine volumes.
7. The information depicted on these maps represents the results of surveys made on the dates indicated, and can only be considered as indicating the general conditions existing at that time.
8. Field books: R & H 3445 & 3435.
   Depthsounder rolls: 00-468-01 thru 00-468-05.
   See NOAA Chart No. 13274

PLAN
SCALE: 1"=50'

GRAPHIC SCALE:
1"=50 FEET 50' 0 50' 100'

US Army Corps of Engineers
New England District

Symbol	Description	Date	Appr.

Surveyed by: O'Brien, Poulik, Hydrographic Crew
Plotted by: Annie Chan
Reviewed by: Chief, Coastal Section
Submitted by: Chief, Navigation Section
Approved by: Chief, Operations Division

Date: 1/14/2000
Design file no.
Drawing code: EN122
File name: 603X400C.dgn
Plot scale: 1" = 50'
Plot date: 1/14/2000
Rev.

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

ESSEX RIVER
MASSACHUSETTS
CONDITION SURVEY
4 FOOT CHANNEL

Reference number:
Sv-1
Sheet 1 of 7

SAFETY PAYS

8 7 6 5 4 3 2 1

F E D C B A

E 799000 E 799500 E 800000

N 603000 N 602500

Bull Island

N

FLOOD EBB

4 - FOOT CHANNEL

60'

MATCH LINE SHEET 3 OF 7

MATCH LINE SHEET 1 OF 7

THE SOUNDINGS FOR THIS AREA ARE FROM SURVEY OF MAY 1994 AND ARE REFERRED TO MEAN LOW WATER

PLAN
SCALE: 1"=50'

NOTE: *For general notes see sheet 1 of 7.*

GRAPHIC SCALE:
1"=50 FEET 50' 0 50' 100'

US Army Corps of Engineers
New England District

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

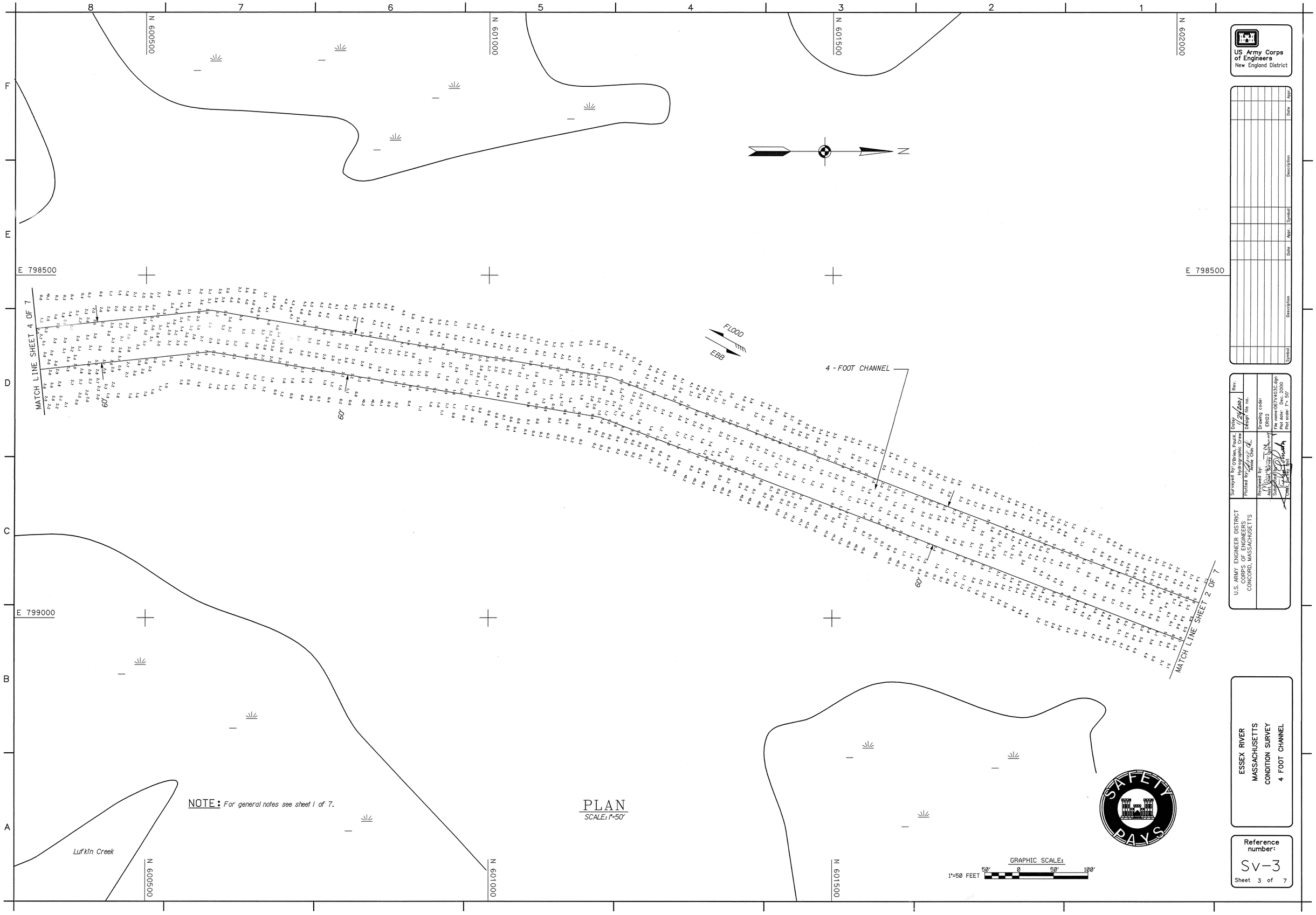
U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

Surveyed by: O'Brien, Poulik & Associates, Inc.
Plotted by: Annie Chan
Reviewed by: Chief, Survey Unit
Submitted by: Chief, Survey Unit

Drawing code: ER122
File name: 067V4020.dgn
Plot date: Dec., 2000
Plot scale: 1" = 50'

ESSEX RIVER
MASSACHUSETTS
CONDITION SURVEY
4 FOOT CHANNEL

Reference number:
Sv-2
Sheet 2 of 7



NOTE: For general notes see sheet 1 of 7.

PLAN
SCALE: 1"=50'

GRAPHIC SCALE:
1"=50 FEET 50' 0 50' 100'

US Army Corps of Engineers
New England District

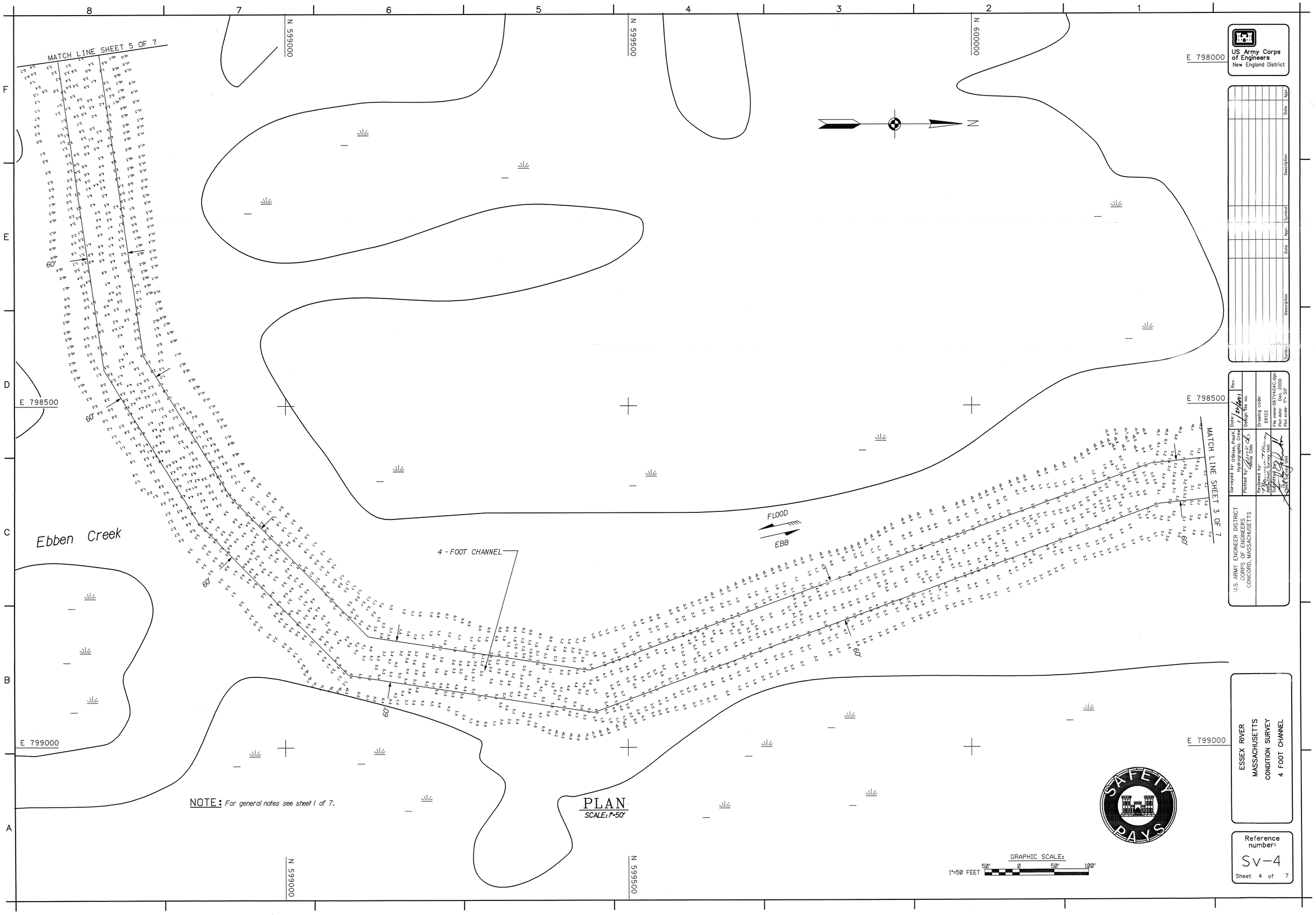
Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

Surveyed by: O'Brien, Paul K. Hydrographic Crew
Date: 1/24/2001
Rev.
Plotted by: Annie Chin
Design file no.
Reviewed by: Asst. Chief, Survey Unit
Drawing code: ER122
Subcontracted by: Chief, Survey Unit
File name: 067V4030.dgn
Plot date: Dec. 2000
Plot scale: 1"= 50'

ESSEX RIVER
MASSACHUSETTS
CONDITION SURVEY
4 FOOT CHANNEL

Reference number:
Sv-3
Sheet 3 of 7



NOTE: For general notes see sheet 1 of 7.

PLAN
SCALE: 1"=50'

GRAPHIC SCALE:
1"=50 FEET 50' 0 50' 100'

US Army Corps of Engineers
New England District

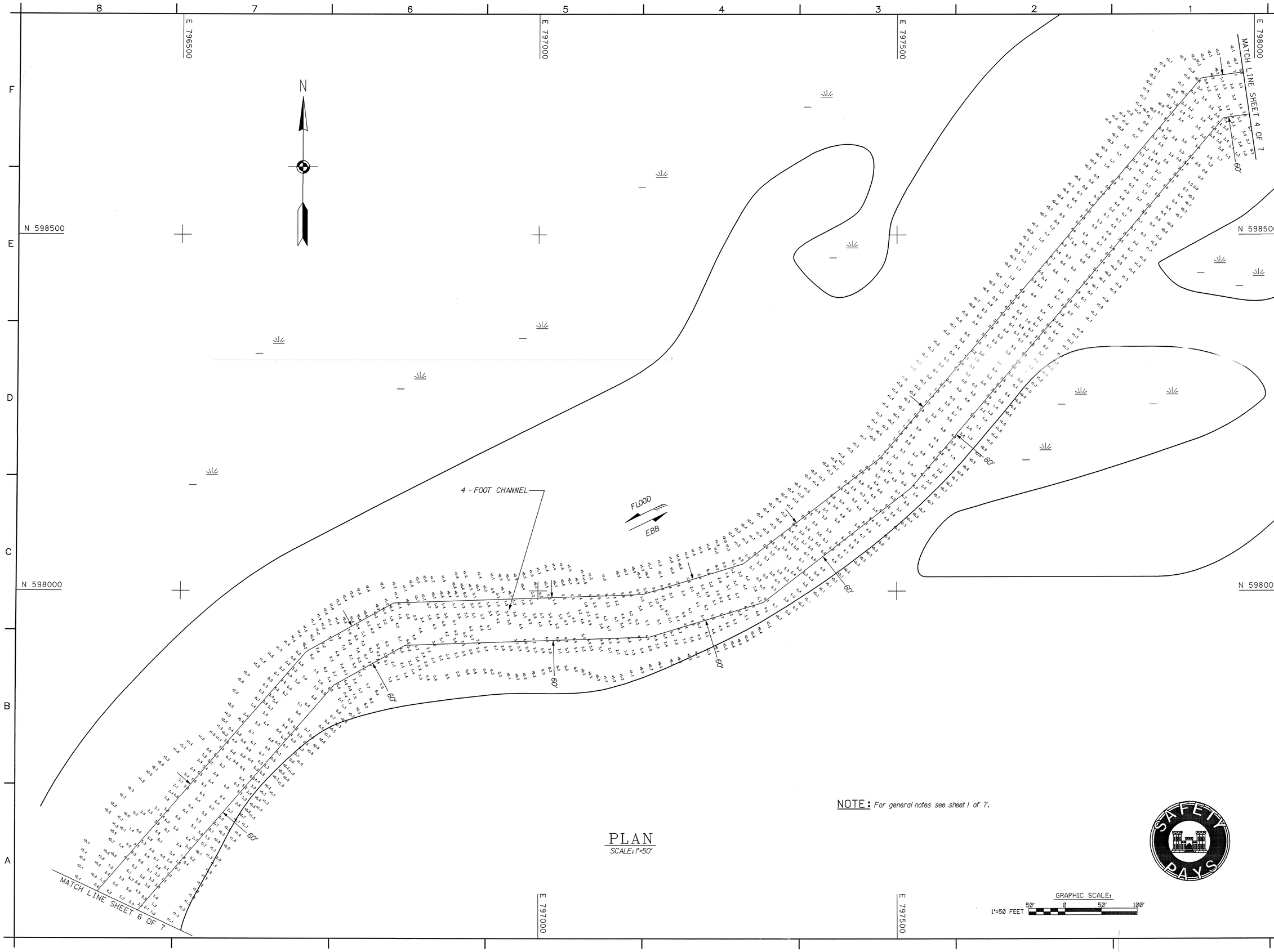
Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

Surveyed by: O'Brien, Paul K. Hydrographic Crew
Date: 1/24/2001
Rev.
Plotted by: Kenneth Chin
Design file no.
Reviewed by: Assoc. Chief, Survey Unit
Drawing code: ER122
Submitted by: Chief, Survey Unit
File name: 067V404C.dgn
Plot date: Dec. 2000
Plot scale: 1"= 50'

ESSEX RIVER
MASSACHUSETTS
CONDITION SURVEY
4 FOOT CHANNEL

Reference number:
Sv-4
Sheet 4 of 7



NOTE: For general notes see sheet 1 of 7.

PLAN
SCALE: 1"=50'

GRAPHIC SCALE:
1"=50 FEET 50' 0 50' 100'

US Army Corps of Engineers
New England District

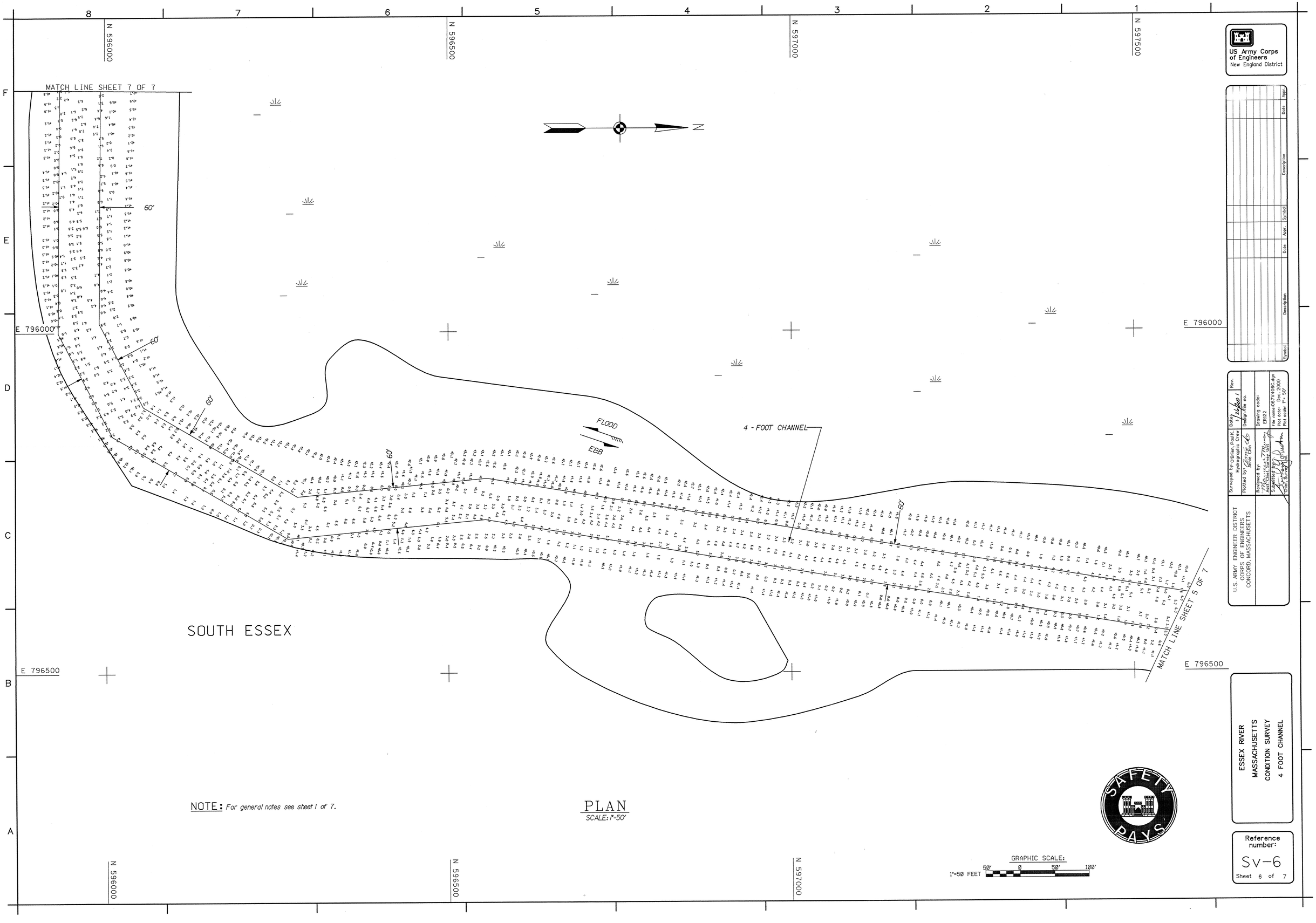
Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

Surveyed by: O'Brien, Paul K.
Hydrographic Crew
Plotted by: Annie Chin
Reviewed by: Assoc. Chief, Survey Unit
Submitted by: Chief, Survey Unit
Date: 1/24/2001
Design file no.
Drawing code: ER122
File name: 067V405C.dgn
Plot date: Dec. 2000
Plot scale: 1"= 50'
Rev.

ESSEX RIVER
MASSACHUSETTS
CONDITION SURVEY
4 FOOT CHANNEL

Reference number:
Sv-5
Sheet 5 of 7



NOTE: For general notes see sheet 1 of 7.

PLAN
SCALE: 1"=50'

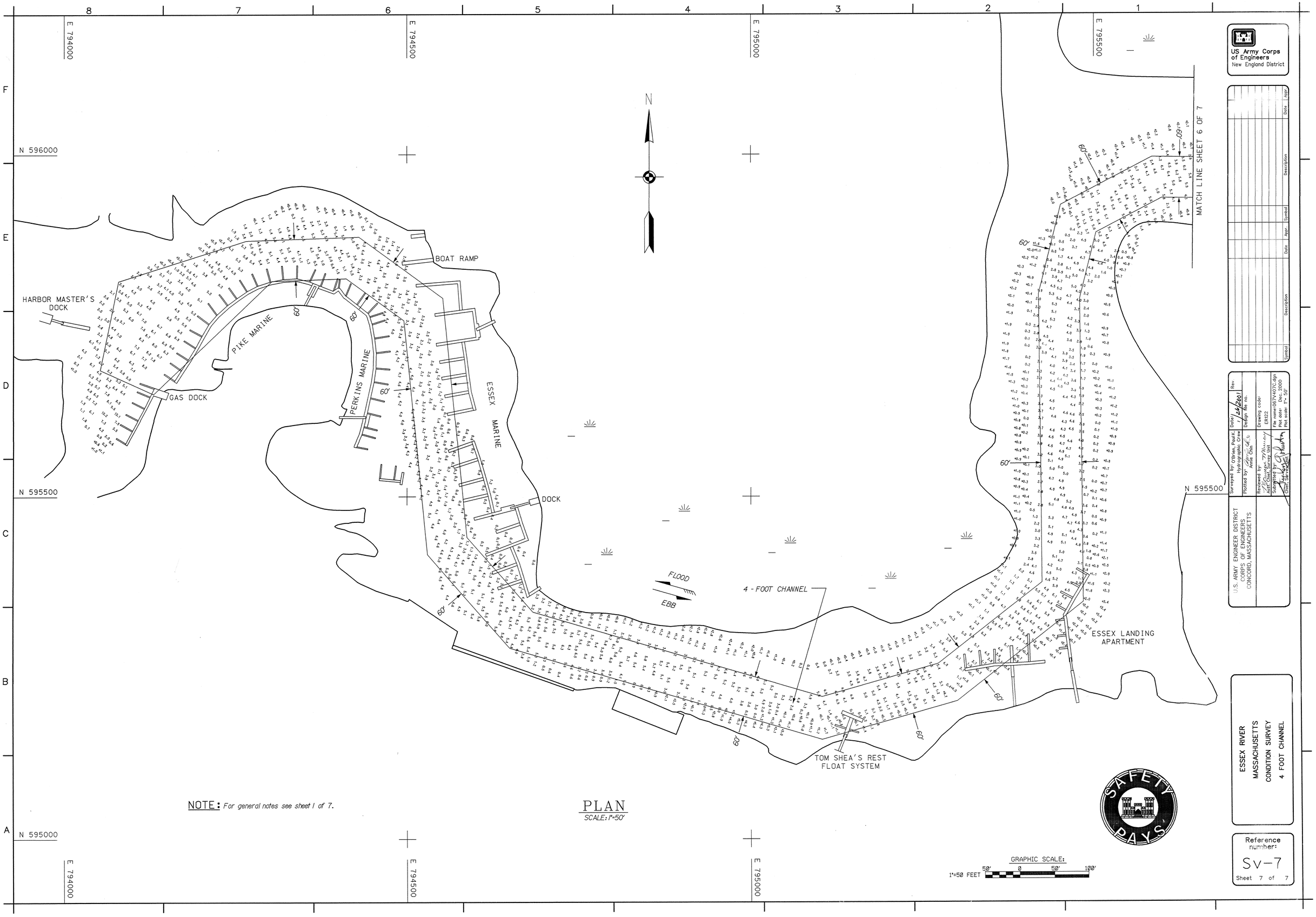
US Army Corps of Engineers
New England District

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

Surveyed by: O'Brien, Paul K. Hydrographic Crew
Plotted by: Annie Chin
Reviewed by: Asst. Chief, Survey Unit
Submitted by: Chief, Survey Unit
Date: 1/26/2001
Design file no.
Drawing code: ER122
File name: 067V406C.dgn
Plot date: Dec. 2000
Plot scale: 1"= 50'

ESSEX RIVER
MASSACHUSETTS
CONDITION SURVEY
4 FOOT CHANNEL

Reference number:
Sv-6
Sheet 6 of 7



NOTE: For general notes see sheet 1 of 7.

PLAN
SCALE: 1"=50'

US Army Corps of Engineers
New England District

Symbol	Description	Date	Appr.	Symbol	Description	Date	Appr.

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
CONCORD, MASSACHUSETTS

Surveyed by: O'Brien, Paul K. Hydrographic Crew
Plotted by: Annie Chin
Reviewed by: Asst. Chief, Survey Unit
Submitted by: Chief, Survey Unit
Date: 1/24/2001
Rev.
Design file no.
Drawing code: ER122
File name: 067V407C.dgn
Plot date: Dec. 2000
Plot scale: 1"= 50'

ESSEX RIVER
MASSACHUSETTS
CONDITION SURVEY
4 FOOT CHANNEL

Reference number:
Sv-7
Sheet 7 of 7